

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/008107

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ F16C33/12, 33/10, 3/02, C23C26/00, C04B41/87, F01D17/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ F16C33/12, 33/10, 3/02, C23C26/00, C04B41/87

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 11-1753 A (Ishikawajima-Harima Heavy Industries Co., Ltd.), 06 January, 1999 (06.01.99), Full text; all drawings (Family: none)	1-20
Y	JP 5-125521 A (Riken Corp.), 21 May, 1993 (21.05.93), Full text; all drawings (Family: none)	1-20
Y	JP 9-31628 A (Riken Corp.), 04 February, 1997 (04.02.97), Full text; all drawings & GB 2303640 A Full text; all drawings & DE 19630149 A & CN 1154420 A	1-20

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search
07 September, 2004 (07.09.04)Date of mailing of the international search report
12 October, 2004 (12.10.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2001-72986 A (Nagasaki-Ken), 21 March, 2001 (21.03.01), Claim 5 (Family: none)	1-20
Y	JP 58-131427 A (Hitachi, Ltd.), 05 August, 1983 (05.08.83), Page 1, lower left column, line 18 to lower right column, line 2; Figs. 1, 2 (Family: none)	2, 4, 10, 12
Y	JP 2000-136827 A (Shinshu Ceramics Co., Ltd.), 16 May, 2000 (16.05.00), Par. No. [0021]; Fig. 9 (Family: none)	5-8, 20
Y	JP 2002-276646 A (Hitachi, Ltd.), 25 September, 2002 (25.09.02), Full text; all drawings & US 2002/0131657 A1 Full text; all drawings & DE 10142303 A	13
Y	JP 2003-129219 A (NTN Corp.), 08 May, 2003 (08.05.03), Full text; all drawings (Family: none)	16, 18
A	JP 8-312373 A (Ishikawajima-Harima Heavy Industries Co., Ltd.), 26 November, 1996 (26.11.96), Full text; all drawings (Family: none)	1-20
A	JP 2000-329139 A (General Electric Co.), 28 November, 2000 (28.11.00), Full text; all drawings & US 06139261 A Full text; all drawings & EP 1045156 A2 & NO 20001986 A	1-20